

CLAIMS

What is claimed is:

1. A method for application specific control of link control parameters comprising:
receiving link performance characteristics indicative of a flow of a
5 stream of packets;
analyzing the link performance characteristics;
determining a flow model from the link performance characteristics;
computing a transfer model as a result of the flow model; and
applying the link control parameters corresponding to the transfer model.
- 10 2. The method of claim 1 wherein computing the transfer model includes
determining a port number corresponding to the stream of packets.
3. The method of claim 2 wherein the port number is indicative of a particular
application.
4. The method of claim 3 wherein the port number is predefined for the particular
15 application.
5. The method of claim 4 wherein the particular application is indicative of a type
of data contained in the packets.
6. The method of claim 1 wherein determining the flow model corresponds to the
type of data on the link.

7. The method of claim 1 wherein computing the transfer model corresponds to the type of data on the link.
8. The method of claim 1 wherein the wireless link is part of a logical connection between two end systems.
- 5 9. The method of claim 8 wherein the logical connection conforms to a protocol.
10. The method of claim 9 wherein the protocol is UDP/IP.
11. The method of claim 9 wherein the protocol is TCP/IP.
12. The method of claim 8 wherein the logical connection includes wired links.
13. The method of claim 1 wherein link performance characteristics include
10 characteristics selected from the group consisting of protocol type, port number, payload type, and control bits.
14. The method of claim 1 wherein the link control parameters include parameters selected from the group consisting of modulation type, ARQ disable flag, coding rate, delay, jitter, minimum suggested bandwidth, average suggested bandwidth,
15 and maximum suggested bandwidth.
15. A system for controlling communication parameters of a wireless communication link comprising:
a link analyzer operable to analyze a message from a remote node;
20 a link controller in communication with the link analyzer and operable to determine performance characteristics indicative of the transmission quality of

the message, and further operable to apply link control parameters to the wireless communication link;

a flow model database having entries corresponding to the performance characteristics;

5 a transfer model database having entries corresponding to link control parameters; wherein at least one of the entries in the flow model database corresponds to at least one entry in the transfer model database.

10 16. The system of claim 15 wherein the link controller is further operable to compute a transfer model by determining a port number corresponding to the stream of packets.

17. The system of claim 15 wherein the link analyzer is operable to determine a port number indicative of a particular application.

18. The system of claim 17 wherein the port number is predefined for the particular application.

15 19. The system of claim 18 wherein the particular application is indicative of a type of data contained in the packets.

20. The system of claim 15 wherein the link analyzer is further operable to determine the performance characteristics based on a data type of the packets.

20 21. The system of claim 16 wherein the link controller is further operable to apply the link control parameters corresponding to the transfer model based on the type of data on the link.

22. The system of claim 15 wherein the wireless link is part of a logical connection.
23. The system of claim 22 wherein the logical connection conforms to a protocol.
24. The system of claim 23 wherein the protocol is UDP/IP.
25. The system of claim 23 wherein the protocol is TCP/IP.
- 5 26. The system of claim 22 wherein the logical connection includes wired links.
27. A method for application specific control of a wireless communication link comprising:
 - receiving, at a local node, a message from a remote node via the wireless communication link;
 - 10 analyzing, at a link analyzer, the message from the remote node;
 - determining, at a link controller in the link analyzer, at least one performance characteristic indicative of the transmission quality of the message;
 - mapping the at least one performance characteristic into a flow model database to determine a flow model;
 - 15 computing, from the flow model, a transfer model indicative of at least one link parameter;
 - applying, to the wireless communication link, the at least one link parameter corresponding to the transfer model.
28. A system for application specific control of a wireless communication link comprising:
 - 20 a link optimizer operable to examine messages;

a link controller in the link optimizer operable to receive performance characteristics and further operable to apply link control parameters to the communication link;

5 a flow model database having at least one flow model, each of the flow models corresponding to at least one performance characteristic;

10 a transfer model database having at least one transfer model, each of the transfer models corresponding to at least one link parameter, wherein the link controller is operable to map a performance characteristic to a flow model, to compute a transfer model corresponding to the flow model, and further operable to apply the link control parameters corresponding to the transfer model to the communication link.

29. A computer program product including computer program code for application specific control of link control parameters comprising:

15 computer program code for receiving link performance characteristics indicative of a flow of a stream of packets;

computer program code for analyzing the link performance characteristics

computer program code for determining a flow model from the link performance characteristics

20 computer program code for computing a transfer model as a result of the flow model; and

computer program code for applying link control parameters corresponding to the transfer model.

25 30. A computer data signal for application specific control of link control parameters comprising:

program code for receiving link performance characteristics indicative of a flow of a stream of packets;

program code for analyzing the link performance characteristics;
program code for determining a flow model from the link performance characteristics

5 program code for computing a transfer model as a result of the flow model; and

program code for applying link control parameters corresponding to the transfer model.

31. A system for application specific control of a wireless communication link comprising:

10 means for receiving link performance characteristics indicative of a flow of a stream of packets;

means for analyzing the link performance characteristics;

means for determining a flow model from the link performance characteristics

15 means for computing a transfer model as a result of the flow model; and

means for applying link control parameters corresponding to the transfer model.